

Amendments to the Specification

Please replace the two paragraphs beginning at page 6, line 22 to page 7, line 12 with the following:

In addition, if a stent with a shaped memory transition temperature below body temperature is utilized, the stent may be cooled during stent delivery by transmitting a cooling medium such as cool saline solution through the annular space 34. It will also be noted that the distal tip 12 of the inner tube 10 and the distal end 23 of the outer tube 22 provides a recessed area for accommodating the stent 26 which protects the stent 26 as it travels up through the vasculature system. Again, this design feature may also eliminate the need for a protective sheath which can be detrimental to flexibility and trackability of the stent delivery system 30.

Instead of the heating element 13 and power line 16, heat can be supplied to the interior of the balloon 24 by transmitting heated inflation media through the annular space 34 to the interior of the balloon 24. Thus, the heating element 13 is optional. The balloon 24 should be fabricated from an elastomeric material. It will be noted that the balloon 24 is not necessarily used to expand the stent, rather it is heat supplied to the interior of the balloon by way of a heating element 13 or a heated medium such as warm saline solution transmitted through the annular space 34 that causes expansion of the stent in the preferred embodiment. The elastomeric material used to fabricate the balloon 24 ensures continual contact between the balloon 24 and stent 26 during deployment of the stent and effective transfer of heat between the balloon 24 and stent 26. Continual contact between the balloon 24 and stent 26 protects against the stent 26 from slipping during deployment of the stent 26 and therefore ensures accurate deployment thereof. The elastomeric balloon 24 will retract fully upon evacuation of inflation media through the annular space 34 thereby making withdrawal of the stent delivery system 30 safe even in a tortuous anatomy.